

# P ***Maclura pomifera***

## Common Name(s)

Hedge Apple, Osage-Orange

## How Used

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	Chemical Plant Part	Low PPM	High PPM	StdDev	Reference	Citation
1	1,3,6,7-TETRAHYDROXYXANTHONE	Heart Wood	--	917		
1	1,3,6,7-TETRAHYDROXYXANTHONE	Wood	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	18-ALPHA-OLEOMANE-3-BETA-19-ALPHA-DIOL	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	19-ALPHA-H-LUPEOL	Fruit	--	429		
0	2'',3',4',5-TETRAHYDROXY-6-(3''-METHYL-3''-BUTENYL)-ISOFLAVONE	Fruit	--	12		
0	2',4',5,7-TETRAHYDROXY-6-(3-METHYL-BUT-3-ENYL)-FLAVONE	Fruit	--	17		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	2,2',4,4'-TETRAHYDROXY-3-(3-METHYL-2-BUTENYL)-CHALCONE	Tissue Culture	--	--		
0	2-3-4'-5-TETRAHYDROXYSTILBENE	Wood	--	10000		
0	2-3-4'-5-TETRAHYDROXYSTILBENE	Heart Wood	--	833		
0	3,6,7,2'-TETRAMETHOXY-4,5-DIHYDROXYFLAVONE	Root Bark	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	4',5,7-TRIHYDROXY-6-(3-METHYL-BUT-3-ENYL)-FLAVONE	Fruit	--	11		
4	6-DEOXYJACAREUBIN	Bark	--	--		
4	6-DEOXYJACAREUBIN	Wood	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	6-DEOXYJAKAREUBIN	Root Bark	--	60		
0	8,8'-BIS-NARINGENIN	Tissue Culture	--	--		
0	8-C-PRENYLNARINGENIN	Tissue Culture	--	--		
0	8-DEOXYGARTANIN	Bark	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	8-DEOXYGARTANIN	Wood	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	8-PRENYL-TOXYLOXANTHONE	Root Bark	--	--		
0	8-PRENYL-TOXYLOXANTHONE-C	Root Bark	--	4153		
0	ALKALOIDS	Fruit	120	600	-0.7577692253774314	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
2	ALPINUMISOFLAVONE	Tissue Culture	--	--		
3	ALVAXANTHONE	Root Bark	600	14200		
1	AMYRIN	Fruit	--	9000	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
101	APIGENIN	Fruit	--	5		
101	APIGENIN	Tissue Culture	--	--		
0	ARACHIDIC-ACID	Fruit	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
3	AROMADENDRIN	Tissue Culture	--	--		
3	AROMADENDRIN	Heart Wood	--	--		
3	AROMADENDRIN	Bark	--	857		
0	AROMADENDRIN-7-O-BETA-D-GLUCOSIDE	Fruit	--	16		
0	AROMADENDRIN-7-O-BETA-D-GLUCOSIDE	Shoot	--	--		
0	ARTOCARPESIN	Tissue Culture	--	--		
112	ASCORBIC-ACID	Fruit	30	150	-0.2751624565642925	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	ASH	Wood	--	3300	-0.586480687305161	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	ASH	Leaf	--	99600	-0.3391911839173297	ANON. 1948-1976. <i>The Wealth of India raw materials.</i> Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	ASTRAGALIN	Fruit	--	3200		
0	AURICULASIN	Fruit	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
47	BETA-SITOSTEROL	Tissue Culture	--	--		
47	BETA-SITOSTEROL	Leaf	--	--		
47	BETA-SITOSTEROL	Root	--	--		
47	BETA-SITOSTEROL	Fruit	--	80	-0.6891305552196143	
0	BETA-SITOSTERYL-ACETATE	Root Bark	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
0	BUTYROSPERMOL	Root Bark	--	--		
0	BUTYROSPERMOL	Fruit	117	175		
0	BUTYROSPERMOL	Tissue Culture	--	--		
0	BUTYROSPERMOL-ACETATE	Fruit	--	45		
0	BUTYROSPERMOL-ACETATE	Root Bark	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
0	CAFAFLAVANONE	Tissue Culture	--	--		
0	CYCLOARTOCARPESIN	Tissue Culture	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	D-FRUCTOSE	Fruit	--	--		
1	D-GLUCOSE	Fruit	--	--		
0	DIHYDROISOOSAJIN	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	DIHYDROISOPOMIFERIN	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	DIHYDROKAEMPFEROL	Wood	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	DIHYDROMORIN	Heart Wood	--	--		
0	DIHYDROMORIN	Bark	--	1286		
0	DIHYDROMORIN	Wood	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	DIHYDROOSAJAXANTHONE-MONOMETHYL-ETHER	Root Bark	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
3	DIHYDROQUERCETIN	Wood	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
0	DISAIN	Fruit	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
0	DL-EUCHRESTAFLAVANONE-B	Root Bark	--	3834		
0	DL-EUCHRESTAFLAVANONE-C	Root Bark	--	6901		
0	EUCHRESTAFLAVANONE-B	Root Bark	--	--		
0	EUCHRESTAFLAVANONE-C	Root Bark	--	--		
0	FAT	Fruit	51600	183400	0.7595423580914289	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	FAT	Leaf	--	18700	-0.7524775607735339	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Seed	--	420000	0.8143988616679225	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
15	FIBER	Fruit	--	160000	0.17291047495919168	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
8	FRUCTOSE	Shoot	--	--		
7	GLUCOSE	Shoot	--	--		
0	GLUCOSIDES	Fruit	236	1180		Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	HEMAGGLUTININS	Seed	--	--		Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
8	INOSITOL	Shoot	--	--		
0	ISOOSAJIN	Fruit	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ISOPOMIFERIN	Fruit	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
75	KAEMPFEROL	Bark	--	29		
75	KAEMPFEROL	Fruit	--	10000	1.7320451833851958	
75	KAEMPFEROL	Wood	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
1	KAEMPFEROL-7-GLUCOSIDE	Fruit	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
13	LIGNIN	Wood	--	412200	1.089026839260062	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
27	LINOLEIC-ACID	Fruit	--	--		
0	LUP-20(29)-EN-3(R)-HYDROXY-HEXADECANOIC-ACID	Leaf	--	25		
0	LUPANE-3,28-DIOL	Leaf	--	--		
0	LUPANE-3-BETA-20-DIOL	Root Bark	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	LUPANE-3-BETA-20-DIOL	Fruit	--	23		
0	LUPANE-3-BETA-20-DIOL	Plant	--	--		
0	LUPANE-3-BETA-20-DIOL-3-MONOACETATE	Root Bark	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	LUPENOL-ACETATE	Fruit	--	15		
0	LUPENYL-ACETATE	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
21	LUPEOL	Root Bark	--	--		
21	LUPEOL	Plant	--	--		
21	LUPEOL	Fruit	137	2300		
0	LUPEOL-BENZOATE	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	LUPINIFOLIN	Tissue Culture	--	--		
0	LURENOL	Fruit	--	2459		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	LURENYL	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	LURENYL-ACETATE	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	LURENYL-BENZOATE	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	MACLURAXANTHONE	Root Bark	1900	27250		
0	MACLURAXANTHONE	Bark	--	--	Jeffery B. Harborne and H. Baxter, eds.	1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
1	MACLURIN	Fruit	--	--	Smith, J. L. and Perino, J. V.	1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
1	MACLURIN	Wood	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983.	Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
15	MORIN	Wood	--	--		
15	MORIN	Heart Wood	--	500		
15	MORIN	Bark	--	1000		
15	MORIN	Tissue Culture	--	--		
6	MYRISTIC-ACID	Fruit	--	--		
56	NARINGENIN	Tissue Culture	--	--		
0	NITROGEN	Fruit	--	25600	0.7697338294117962	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
0	NORARTOCARPENONE	Heart Wood	--	--		
1	NORATHYRIOL	Plant	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983.	Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
18	OLEIC-ACID	Fruit	--	--		
0	OSAJAXANTHONE	Bark	--	--		
0	OSAJAXANTHONE	Root Bark	175	639		
0	OSAJIN	Fruit	9000	64000		
0	OSAJIN	Tissue Culture	--	--		
1	OXYRESVERATROL	Heart Wood	--	--		
1	OXYRESVERATROL	Wood	--	--		
1	OXYRESVERATROL	Bark	--	5714		
13	PALMITIC-ACID	Fruit	--	--		
0	PARVISOFLAVONE-A	Tissue Culture	--	--		
24	PECTIN	Fruit	--	460400 4.835907587345186	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
3	POMIFERIN	Fruit	25	19850		
0	POPULNIN	Shoot	--	--		
0	POPULNIN	Fruit	12	13		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation	
0	PROTEIN	Wood	--	9700	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41		
0	PROTEIN	Fruit	--	160000	0.67699403143139	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
0	PROTEIN	Leaf	--	233700	0.2180242492216289	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.	
176	QUERCETIN	Fruit	270	520	2.0037988794180372		
176	QUERCETIN	Bark	--	14			
176	QUERCETIN	Root	360	1130			
176	QUERCETIN	Wood	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41		
0	RESIN	Fruit	166640	216900	2.002753572944224	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
17	RESORCINOL	Wood	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
17	RESORCINOL	Bark	--	21		
68	RESVERATROL	Heart Wood	--	--		
87	RUTIN	Wood	--	--	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41	
1	SILICIC-ACID	Leaf	--	--	ANON. 1948-1976. <i>The Wealth of India raw materials.</i> Publications and Information Directorate, CSIR, New Delhi. 11 volumes.	
0	STEPOGENIN	Tissue Culture	--	--		
12	STIGMASTEROL	Leaf	--	--		
14	SUCROSE	Shoot	--	--		
0	SUGAR	Fruit	166640 216900 0.19476411538055938	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
35	TANNIN	Wood	90000	100000	1.2399802396022128	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TOVOXANTHONE	Root Bark	--	10		
0	TOXYLOXANTHONE-A	Bark	--	--		
0	TOXYLOXANTHONE-B	Bark	--	--		
0	TOXYLOXANTHONE-C	Bark	--	--		
0	TOXYLOXANTHONE-D	Bark	--	--		
6	UVAOL	Leaf	--	--		
4	WARANGALONE	Tissue Culture	--	--		
4	WARANGALONE	Fruit	--	--		
0	WATER	Fruit	--	800000	0.1279394516594334	Smith, J. L. and Perino, J. V. 1981. Osage Orange ( <i>Maclura pomifera</i> ): History and Economic Uses. <i>Economic Botany</i> 35(1): 24-41
2	WIGHEONE	Tissue Culture	--	--		